

3rd Annual CSF Disorders Symposium
Connective Tissue Syndromes and Manifestations of
Cerebrospinal Fluid Disorders (CSF) of the Brain and Spine:
"If You Cannot Connect the Issues, Think of Connective Tissues"

Saturday, June 16, 2018

Warren Alpert Medical School
Providence, RI

Jointly Provided By

Warren Alpert Medical School, Brown University *and*
Department of Neurosurgery at Rhode Island Hospital

In Collaboration With

Chiari & Syringomyelia Foundation



WHO SHOULD ATTEND

Physicians, Physician Assistants, Nurse Practitioners, Nurses, Residents, Fellows and Researchers interested in advancing their understanding of the most prevalent Ehlers-Danlos syndromes (EDS) including diagnosis, manifestations, available treatment options, and the most current EDS research.

This comprehensive program will include topics of interest to healthcare professionals who specialize in gastroenterology, genetics, neurology, neuropsychology, neuroscience, neurosurgery, nutrition, pain management, pediatrics, physical therapy, primary care, pulmonology, radiology, rehabilitation, rheumatology, urology.

LEARNING OBJECTIVES

- At the conclusion of this activity, participants should be able to:
- Recognize the relevance of connective tissue syndromes, in particular Ehlers-Danlos-Syndrome, as overlooked conditions in patients with complex neurological symptoms
 - Promote the concept and understanding of neurological cranial and spinal manifestations in connective tissue disorders
 - Report the treatment options of pain, physical therapy and surgical options and the outcome of surgical interventions
 - Discuss the recent research findings (including translational equine studies) to support the neurological manifestations and the surgical treatment options
 - Describe how the neurological manifestations (i.e. Chiari malformation, craniocervical and spinal instability and occult tethered cord) and the pathophysiological link to deficient collagen, hypermobility, unstable vertebra, early disk disease, and an aroused immune system.

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Saturday, June 16, 2018

7:30–8:30 AM **Registration, Breakfast, Visit Exhibitors**

8:30–9:00 **Welcome and Introduction**
Ziya L. Gokaslan, MD, FAANS, FACS
Petra M. Klinge, MD, PhD
Dorothy Poppe
Executive Director
Chiari & Syringomyelia Foundation

Susan Hawkins, BA, MBA
Vice Chair, Board of Directors, International,
The Ehlers-Danlos Society

9:00–9:20 **Introduction of the International Ehlers-Danlos Society**
Lara Bloom
Executive Director, International,
The Ehlers-Danlos Society

9:20–9:40 **Current Concepts on the Diagnosis and Management of Ehlers-Danlos Syndromes: International Guidelines**
Clair A. Francomano, MD

NEUROSURGICAL & NEUROLOGICAL TREATMENT MANIFESTATIONS OF EDS IN THE BRAIN, THE SKULL BASE & THE SPINE

9:40–10:00 **Surgical Management of Cranocervical Junction Pathology**
Jared S. Fridley, MD

10:00–10:20 **Surgical Management of Craniocervical Junction, Hindbrain & Skull Base Abnormalities in Ehlers Danlos Syndrome**
Harold L. Reke, MD

10:20–10:30 **Break and Visit Exhibits**

10:30–10:50 **Chronic Intracranial Hypotension in the Setting of Meningeal Prolapses & CSF Leak**
Wouter I. Schievink, MD

10:50–11:10 **Under Pressure: Diagnosis & Management of Intracranial Hypertension (Pseudotumor Cerebri) and Associated Headaches**
Julie L. Roth, MD

11:10–11:30 **The Occult Tethered Cord Syndrome**
Petra M. Klinge, MD, PhD &
Janice A. Santos Cortes, MD

11:30–11:40 **Imaging of Patient With Occult Tethered Cord Syndrome**
Amanda Baker, MD

11:40–12:00 PM **The Importance & Outcome of Urodynamic Findings in the Setting Occult Tethered Cord Syndrome**
Janice A. Santos Cortes, MD

12:00–1:00 **Lunch and Visit Exhibits**

THE ROLE OF PAIN MANAGEMENT AND PHYSICAL THERAPY IN THE DISORDERS OF THE BRAIN AND SPINE

1:00–1:20 **Pain Management in Connective Tissue Disorders with Special Consideration of Neurological Manifestations**
Pradeep Chopra, MD, MBBS, MHCM

1:20–1:40 **Pediatric Pain & Palliative Care in Connective Tissue Disorders**
Angela C. Anderson, MD

1:40–2:00 **Fibromyalgia—A Red Herring in the Diagnosis of Pain Associated with Connective Tissue Disorders**
Alexios Carayannopoulos, DO, MPH, FAAPMR

2:00–2:20 **The Role of Physical Therapy in the Management & Cure of Neurological Manifestations of Connective Tissue Disorders**
Patricia E. Meegan, DPT, L, ATC

2:20–2:40 **The Role of Physical Therapy in the Treatment of Ehlers Danlos Syndrome**
Kevin Muldowney, PT

2:40–3:00 **Break and Visit Exhibits**

EDS & TRANSLATIONAL STUDIES

3:00–3:20 **Mast Cell Activation Disorders & EDS, Traveling Together in Modern Times**
Anne L. Maitland, MD, PhD

3:20–3:40 **Translational Research: A Widespread, Naturally Occurring Model of Ehlers-Danlos Syndrome in the Horse**
Ann Rashmir, DVM, MS, DACVS, PGCVE, FHEA

3:40–4:00 **Evaluation of Myodural Bridges in an Equine Model of EDS | Abby McElroy, DVM**

4:00–4:20 **Histopathology of Occult Tethered Cord & Myodural Bridges in Humans vs. HERDA Horses**
Edward G. Stopa, MD

4:20–4:40 **Translation of Human & Veterinarian Disease in CSF Disorders**
Ane Uriarte, DVM, DECVN

4:40–5:00 PM **Closing Remarks**
Petra M. Klinge, MD, PhD

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Co-Chairs

Ziya L. Gokaslan, MD, FAANS, FACS
Gus Stoll, MD Professor and Chair, Neurosurgery
Warren Alpert Medical School of Brown University
Neurosurgeon-in-Chief
Rhode Island Hospital & The Miriam Hospital
Clinical Director, Norman Prince Neurosciences Institute
President, Brown Neurosurgery Foundation | Providence, RI

Petra M. Klinge, MD, PhD
Professor of Neurosurgery
Warren Alpert Medical School of Brown University
Director, Division of Pediatric Neurosurgery
Director, Center for CSF Disorders of the Brain and Spine
Rhode Island Hospital & Hasbro Children's Hospital
Providence, RI

Faculty

Angela C. Anderson, MD
Associate Professor of Pediatrics, Clinician Educator
Associate Professor of Emergency Medicine, Clinician Educator
Warren Alpert Medical School of Brown University
Director, Division of Children's Integrative Therapies,
Pain Management and Supportive Care, (ChIPS)
Hasbro Children's Hospital | Providence, RI

Amanda Baker, MD
House Staff Officer in Diagnostic Imaging
Warren Alpert Medical School of Brown University
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Clinical Assistant Professor of Neurosurgery
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Division Director, Pain and Rehabilitation Medicine
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Clair A. Francomano, MD
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Harvey Institute of Human Genetics
Director, Adult Genetics
Greater Baltimore Medical Center | Towson, MD

Jared S. Fridley, MD
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Director, Spine Surgery Outcomes Laboratory
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Anne L. Maitland, MD, PhD
Assistant Clinical Professor of Medicine, Clinical Immunology
Icahn School of Medicine at Mount Sinai
Comprehensive Allergy and Asthma Care | New York, NY

Abby McElroy, DVM
Michigan State University College of Veterinary Medicine
East Lansing, MI

Patricia E. Meegan, DPT, L, ATC
Clinician Staff Education Mentor
Healy Physical Therapy and Sports Medicine | East Providence, RI

Kevin Muldowney, PT
Owner, Muldowney Physical Therapy
Cranston & North Smithfield, RI

Ann Rashmir, DVM, MS, DACVS, PGCVE, FHEA Associate
Professor, Large Animal Clinical Sciences
Michigan State University College of Veterinary Medicine
East Lansing, MI

Harold L. ReKate, MD
Professor of Neurosurgery
Hofstra Northwell School of Medicine | Hempstead, NY

Julie L. Roth, MD
Assistant Professor of Neurology
Assistant Professor of Medical Science
Warren Alpert Medical School of Brown University
Rhode Island Hospital | Providence, RI

Wouter I. Schievink, MD
Professor of Neurosurgery
Director, Cerebrospinal Fluid Leak Program
Director, Microvascular Neurosurgery Program
Cedars-Sinai Medical Center | Los Angeles, CA

Edward G. Stopa, MD
Professor of Pathology and Laboratory Medicine
Professor of Neurosurgery
Warren Alpert Medical School of Brown University
Director, Neuropathology Division
Rhode Island Hospital | Providence, RI

Janice A. Santos Cortes, MD
Assistant Professor of Surgery (Urology), Clinician Educator
Warren Alpert Medical School of Brown University
Program for Pelvic Floor Disorders
Women's Medicine Collaborative | Providence, RI

Ane Uriarte, DVM, DECVN
Assistant Professor, Neurology and Neurosurgery
Department of Clinical Sciences
Foster Hospital for Small Animals
Cummings School of Veterinary Medicine at Tufts University
North Grafton, MA

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Program Description

Over 200 disorders impact connective tissue. Those are genetic disorders, such as Ehlers-Danlos syndrome, Marfan syndrome, and autoimmune disorders, such as lupus and scleroderma. Ehlers-Danlos syndromes (EDS), including the associated hypermobility spectrum disorders (HSDs), previously classified as EDS type III, are the most commonly observed, and the neurological manifestations include effects on the Cerebrospinal fluid circulation. This has been largely overlooked and poorly described.

In 2017, for the first-time management and care guidelines have been produced for the co-morbidities that can occur within EDS and HSDs (1) supported by the international Ehlers-Danlos society (2). Experts and physicians treating patients with EDS, more frequently and uniquely observe neurological manifestations that ought to be linked to the pathophysiology of deficient collagen, hypermobility, unstable vertebra and early disk disease, and an aroused immune system. All those deficiencies may cause structural and functional problems to the central nervous system, such as compression and stretch of the brain stem and spinal cord at the base of the skull due to instability and a hyperflexible spine, chronic cerebrospinal fluid leak and occult tethered cord syndrome (OCTS). Further, mediation of systemic inflammatory and immune reaction to the brain tissue, that may promote the neurological sequelae and symptoms, such as pain, extremity weakness and sensory deficits, bladder and bowel dysfunction and dysautonomia and cognitive complains. There are viable surgical options and interventions, i.e. stabilization of the skull base and spine, decompression of the skull base or surgical resection of the filum terminale to "release" the stretching of the spinal cord. Those interventions in the expert's hands have shown to ameliorate the above listed symptoms, however, this specialized field is in the pioneering stage and a controversial topic.

The CSF symposium will discuss and advance the understanding of the above with focus on the most prevalent Ehlers-Danlos syndromes, and provide both clinical and translational evidence to the concept of central nervous and cerebrospinal fluid system manifestations of connective tissue syndromes based in imaging, pathological findings and results of pain, physical therapy and surgical interventions.

Conference Location and Parking

Warren Alpert Medical School of Brown University
222 Richmond Street, Providence, RI 02912

Parking will be available in the parking garage connected to the Medical Building, located on the corner of Richmond and Elm Streets. Enter through the Elm Street entrance.



Please notify the Brown CME Office in writing at least two weeks prior to the conference to request reasonable accommodations.

Hotel Accommodations

Omni Providence Hotel, 1 W. Exchange St., Providence, RI 02903

To book hotel reservations with the current Brown University rate:
<http://www.campustravel.com/university/brown/>

Registration Information — Register Online At:

https://apps.biomed.brown.edu/cme_registration

Registration Fees:

\$75.00 Healthcare Professionals and Researchers
\$50.00 Residents, Fellows, Students

Conference registration fee includes: breakfast, breaks, lunch, access to an online syllabus, and on-site parking.

Accreditation

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Warren Alpert Medical School of Brown University and Department of Neurosurgery at Rhode Island Hospital. The Warren Alpert Medical School of Brown University is accredited by the ACCME to provide continuing medical education for physicians.

Credit Designation

Physicians: The Warren Alpert Medical School of Brown University designates this live activity for a maximum of 6.5 *AMA PRA Category 1 Credits*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Physician Assistants/Nurse Practitioners: Participants will receive a Certificate of Attendance stating this program is designated for 6.5 hours *AMA PRA Category 1 Credits*[™]. This credit is accepted by the AAPA and AANP.

Physical Therapists/Physical Therapy Assistants: An application has been submitted to the Rhode Island Board of Physical Therapy to offer CE programs for physical therapists. Determination of credits is pending.

Nurses: This activity has been submitted to the Northeast Multi-State Division for approval to award contact hours. The Northeast Multi-State Division is accredited as an approver of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. Maine, New Hampshire, New York, Rhode Island, Vermont Nurses Associations are members of the Northeast Multi-State Division of the American Nurses Association.

Cancellation Policy

Cancellations/substitutions must be made in writing to the Brown CME Office at least two weeks prior to the conference, no later than June 1, 2018. A \$25.00 administrative fee will be charged for all refunds (no refunds for "no shows"). There will be no additional charge for substitutions. This conference is subject to change or cancellation.

For More Information, Contact the Brown CME Office

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